

6 position wherein said vent is open, said piston being balanced such that it has a
7 substantially one to one dome to seat ratio; and
8 a check valve disposed between and in fluid communication with said inlet
9 and said outlet of said regulator body having an open position that permits a fluid to
10 flow from said inlet to said outlet and a closed position that prohibits the flow of a
11 fluid from said outlet to said inlet.

1 *Sub C2* 5. (New) A valve control apparatus comprising in combination:
2 a gas controller;
3 a mold cavity;
4 a regulator body having an inlet in fluid communication with a gas controller,
5 an outlet in fluid communication with a mold cavity, a vent for exhausting gas from
6 said mold cavity and a balanced piston movable to a first position wherein said vent is
7 closed and a second position wherein said vent is at least partially open.
8 a check valve disposed between and in fluid communication with said gas inlet
9 said gas outlet of said regulator body, said check valve having an open position that
10 permits a fluid to flow from said inlet to said outlet and a closed position that
11 prohibits the flow of a fluid from said outlet to said inlet.

SUB B2 1 6. (New) A method for controlling a valve comprising the steps of:
2 providing a gas controller;
3 providing a mold cavity;
4 providing a regulator body having an inlet in fluid communication with said
5 gas controller, an outlet in fluid communication with said mold cavity, a vent for

6 exhausting gas from said mold cavity and a piston mounted for reciprocal movement
7 between a first position wherein said vent is closed and a second position wherein said
8 vent is open;

9 providing a check valve disposed between and in fluid communication with
10 said inlet and said outlet of said regulator body, said check valve being biased in a
11 closed position and having an open position that permits a fluid to flow from said inlet
12 to said outlet;

13 supplying a fluid from said gas controller at a first pressure to said gas inlet,
14 said first pressure being sufficient to place said check valve in said open position such
15 that fluid is communicated to said outlet and said mold cavity and to move said piston
16 to said first position;

17 supplying a fluid from said gas controller at a second pressure that is lower
18 than said first pressure to said gas inlet such that said check valve is placed in said
19 closed position and said fluid in said mold cavity at said first pressure operates to
20 move said piston toward said second position to open said vent and exhaust said fluid
21 from said mold cavity.

1 7. (New) The method for controlling a valve of claim 6, further
2 comprising the step of supplying a fluid from said gas controller at a third pressure to
3 said gas inlet such that said piston is balanced at a position intermediate said first and
4 said second positions.

- 1 8. (New) The method for controlling a valve of claim 6, wherein said
2 second pressure of said fluid from said gas controller operates to balance said piston
3 at a position intermediate said first and said second positions.
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